Requirements Management Executive Overview

Joint Capabilities Integration and Development System (JCIDS)

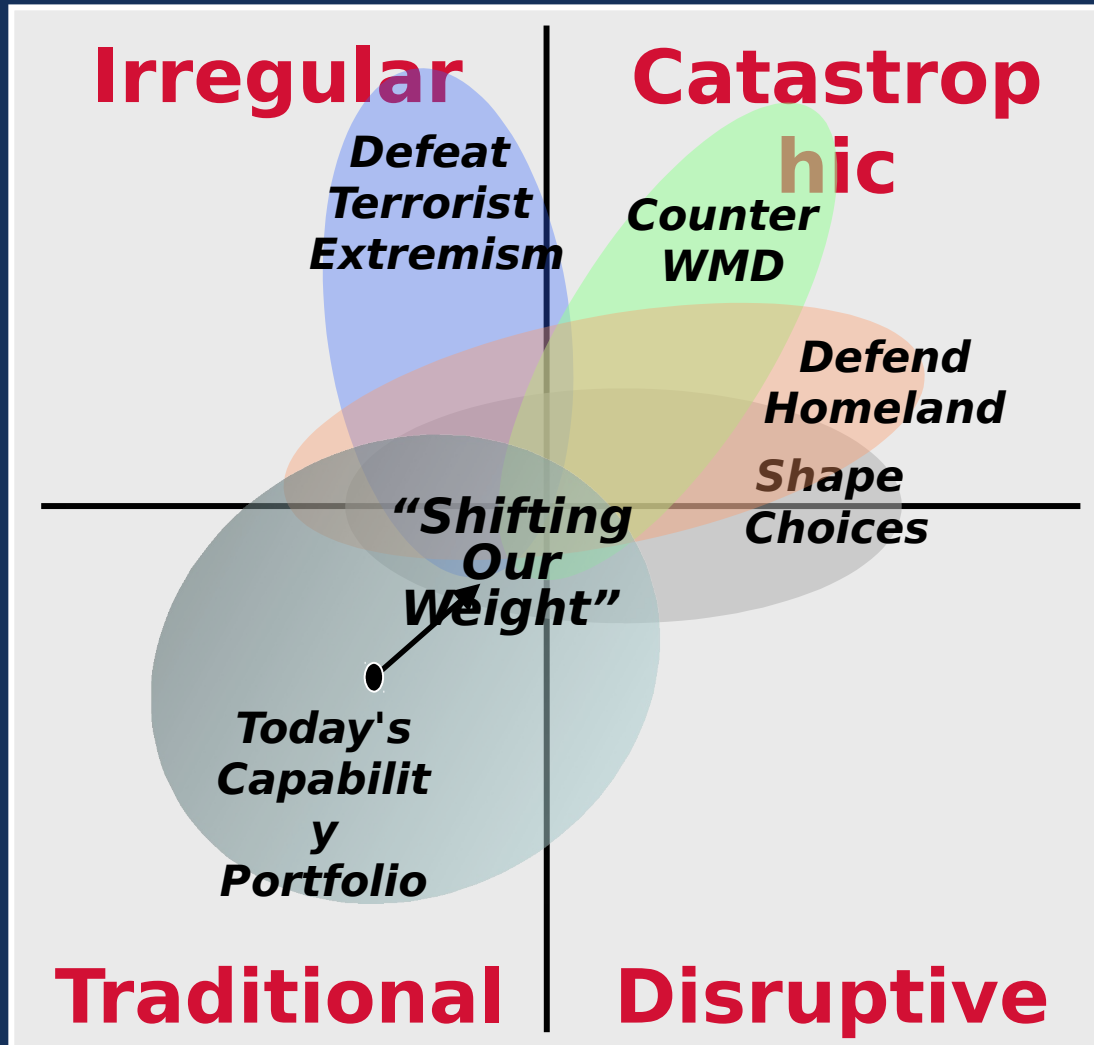# Developing Requirements

* **Developing Capabilities**
* **Sequences of Events**
  * **Analysis**
  * **Initial Documentation**
  * **Transitions to Actions that provide Solutions**
* **Non-Materiel Solutions**
* **JCIDS Interactions with Developing Materiel Solutions**

Warfare is Not Always Force-on-Force

QDR 2006

- Defeat Terrorist Networks
- Defend the Homeland in Depth
- Shape the Choices of Countries at Strategic Crossroads
- Counter the Acquisition and Use of Weapons of Mass Destruction

Requirements Generation System (RGS) - ~30 years of experience

Joint Capabilities Integration and Development System (JCIDS) ~ 6 years old

Partially Interoperable Capabilities

Strategic Direction

Late Integration

Joint Warfighting Concept Development

Services Build Systems

Joint Experimentation, Assessment & Analysis, Validation, Selection of Solution

Service Experimentation, Assessment & Analysis, Validation, Selection of Solutions

COCOMs, Services' Unique Strategic Visions

Service Unique Strategic Visions and Requirements

Joint Capabilities

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Capabilities-Based Planning (CBP)

Strategic Guidance And Desired Effects

Strategic Guidance (OSD (P))
- National Security Strategy
- National Defense Strategy
- National Military Strategy
- Contingency Planning Guidance
- QDR Report
- Guidance for Development of the Force
- Joint Programming Guidance

Analytic Agenda (OSD
- Defense Planning Scenarios
- Multi-Service Force Deployment
- Operational Availability Studies
- Global Force Management

Joint Concepts (J7)
- CJCSI 3010.02B
- Joint Operating Concepts (JOCs)
- Joint Concept Development & Experimentation Process Guide
- JCDE Campaign Plan
- Joint Concepts
- DPS – Blue Force CONOPS

Force Management ← **CBP** → **Adaptive Planning**

JCIDS (J8)
- CJCSI/M 3170.01
- JROC Validation and Approval of JCIDS Documents
- Functional Capabilities Boards
- Evaluation of COCOM Needs (lessons learned, joint urgent needs, etc.)

DoD 5000 (OSD
- Concept Decisions
- Defense Acquisition Boards
- Acquisition Decision Memos
- Selected Acquisition Reports/ Defense Acquisition Executive Summaries
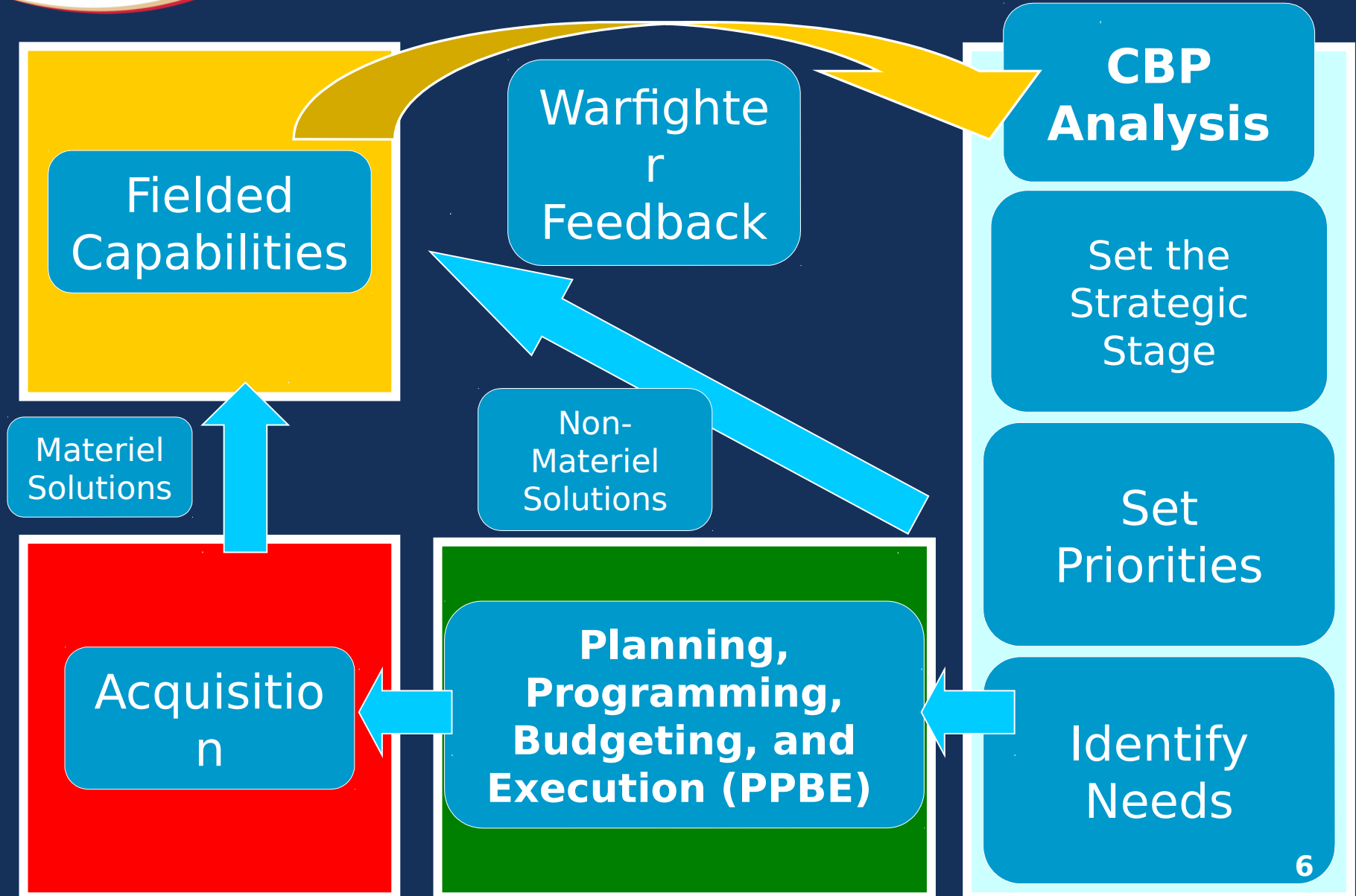- Capability Portfolio Management

PPBE (OSD (C/PA&E))
- Program Objective Memorandum/ Budget Estimate Submission
- Program Review
- Program Decision Memos/ Program Budget Decisions
- President's Budget

Common Lexicon – Joint Capability Areas

Delivered Capability to the Joint Warfighter

Capabilities-Based Planning

CBP Analysis

Warfighter Feedback

Fielded Capabilities

Set the Strategic Stage

Materiel Solutions

Non-Materiel Solutions

Set Priorities

Acquisition

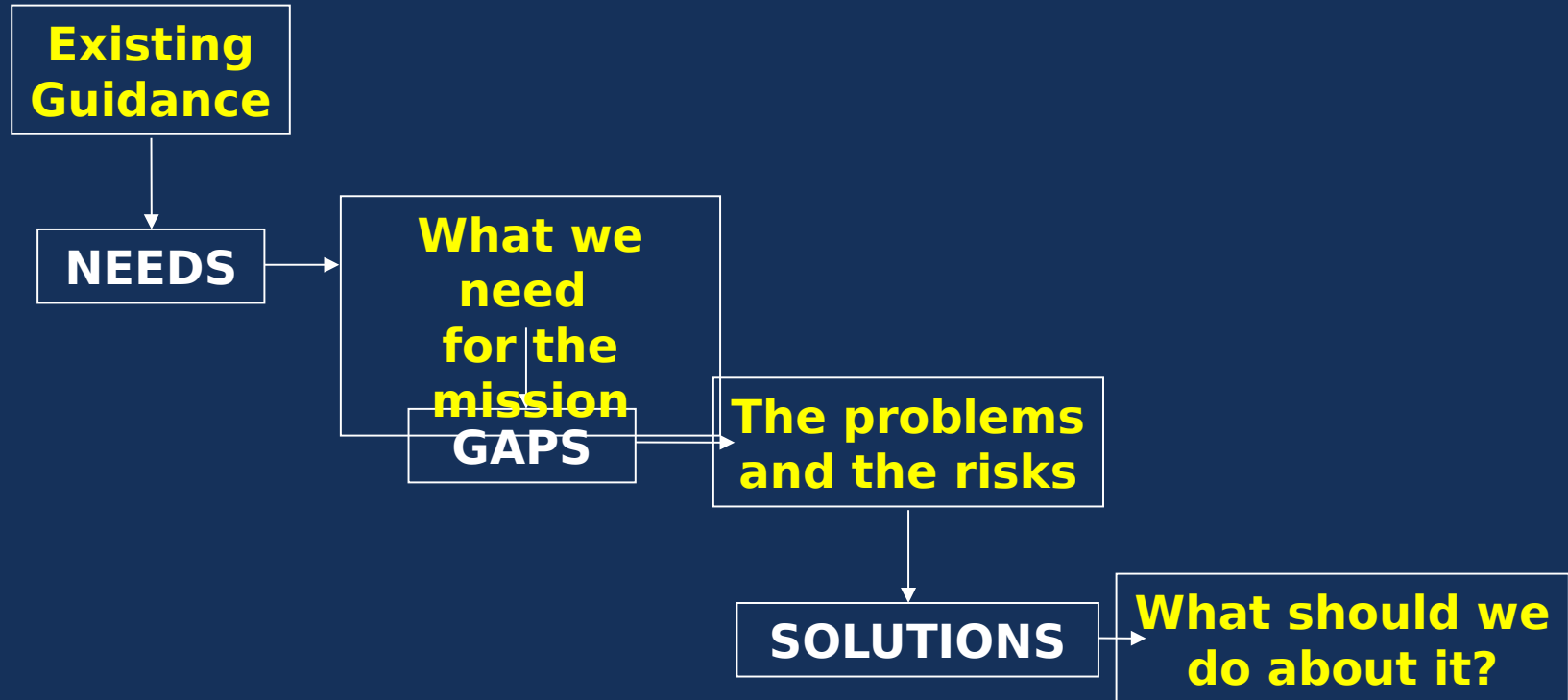**Planning, Programming, Budgeting, and Execution (PPBE)**

Identify Needs

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* **What is Analysis?**
* **How Does Analysis Help Deliver Solutions to the Warfighter?**
* **What is a Capabilities Based Assessment (CBA)?**

Analysis – An analytical study of military problems undertaken to provide the responsible commanders and staff agencies with a scientific basis for decisions or action to improve military operations

✶ **Analysis is a Structured Study That:**
- **Solves a problem**
- **Examines a range of alternatives**
- **Converts real life into math models or simulations**
- **Processes data and derives meaning from results**
- **Conveys understandable results to the Decision Maker**

Existing Guidance

NEEDS → **What we need for the mission**

GAPS → **The problems and the risks**

SOLUTIONS → **What should we do about it?**

Tab 2

D O T M L P F

D   – Doctrine

O   – Organization

T – Training

M   – Materiel

L – Leadership and education

P – Personnel

F – Facilities

Tab 2

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✳ **Transformational Solutions**

✳ **Evolution of Existing Capabilities**

✳ **Information Technology Solutions**

✳ **Information for an Analysis of Alternatives**

✳ **Managers must communicate to avoid disconnects over seams between JCIDS, DAS, and PPBE**

✳ **DOTMLPF Change Recommendation (DCR)**
✳ **Initial Capabilities Document (ICD)**

The Joint DOTMLPF Change Recommendation (DCR)

* **Results of Joint Experimentation or Other Assessments**

* **Results of a Capabilities Based Assessment (CBA)**

* **Request Additional Commercial or Non-Developmental Items Previously Produced or Deployed**

* **Introduce Solutions Available From Other DOD, US Agency, or Foreign Sources**

* **When DoD Decides to Not Develop New Materiel Systems**
* **Non-Materiel Solutions**
  * **Change policy**
  * **Change doctrine**
  * **Reorganize**
  * **Train and educate DOD personnel differently**
  * **Acquire commercial or non-developmental items**
  * **Acquire more quantities of existing items**
  * **Add or reassign personnel**
  * **Move or realign facilities**
* **Sometimes Called DOT_LPF**

Requirements developed during analysis go into the Initial Capabilities Document (ICD):

Capabilities-Based Assessment (CBA)	→	Initial Capabilities Document (ICD)	→	Staffing and Validation

✶ **ICDs Apply the Capabilities-Based Assessment (CBA) Results**

- **Identifies relevant operational performance attributes**
- **Documents the recommendation on the need for a materiel solution**

✶ **Predecessor Document for the Capability Development Document (CDD)**

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Tab 2

Operational Performance Attributes

✳ **Attributes Necessary to Design a Proposed System**

✳ **Establish a Performance Baseline**

✳ **Guide Development and Demonstration**

✳ **Guide Developing Key Performance Parameters (KPPs)**

Key Performance Parameters (KPPs)

✴ **Attributes or Characteristics of a System**

✴ **Critical or Essential**

- **To develop an effective military capability**
- **To make a significant contribution to the characteristics of the future joint force**

✴ **KPPs Must be Testable**

- **Enable feedback from T&E**

✴ **Validated by the JROC for JROC Interest Documents**

- **Attributes Most Critical or Essential**
- **Not Selected as a KPP**
- **An Additional Level of Capability Prioritization Below the KPP**
- **Only Senior Leadership can Change a KSA**
  - **Sponsor 4-star**
  - **Defense Agency Commander**
  - **Principal Staff Assistant**

The Defense Acquisition Management System

- *Materiel Development Decision precedes entry into any phase of the acquisition framework*
- *Entrance criteria met before entering phase*
- *Evolutionary Acquisition or Single Step to Full Capability*

Technology Opportunities & Resources

User Needs

| Strategic Guidance | Joint Concepts | Capabilities - Based Assessment | ICD | MDD | Materiel Solution Analysis | TechDev | CDD | Engineering & Manufacturing Development | CPD | Production & Deployment | O&S |

MS   MS   MS   Full Rate

AoA

Incremental Development

OSD/JCS   *COCOM*   FCB

✴ **The Capability Development Document (CDD) and Capability Production Document (CPD) Must Contain Sufficient KPPs**

✴ **Capture Minimum:**

- **Operational effectiveness**
- **Suitability**
- **Sustainment**

✴ **Failure to Meet a KPP Results in Reevaluation or Reassessment of the Program**

✴ **Define Performance Requirements to Achieve the Capability**

- • **KPPs, KSAs, and additional attributes**
- • **Authoritative**
- • **Measurable**
- • **Testable**

✴ **Capture Necessary Information for Affordable and Supportable Capabilities**

✴ **Describe DOTMLPF and Policy Constraints**

✴ **Specify the Attributes of a System in Development**

✴ **Provide Operational Capabilities for the Acquisition Strategy and the Acquisition Program Baseline (APB)**

✴ **Insert All CDD Key Performance Parameters (KPPs) and Sustainment Key System Attributes (KSAs) Verbatim into the APB**

What does the CPD Do?

* **Support Production and Deployment**
* **Authoritative, Testable Capabilities**
* **Support Production, Testing, and Deployment**
* **Incremental Production and Deployment**
* **No New Requirements**
* **Operational Performance Attributes**

The Defense Acquisition Management System

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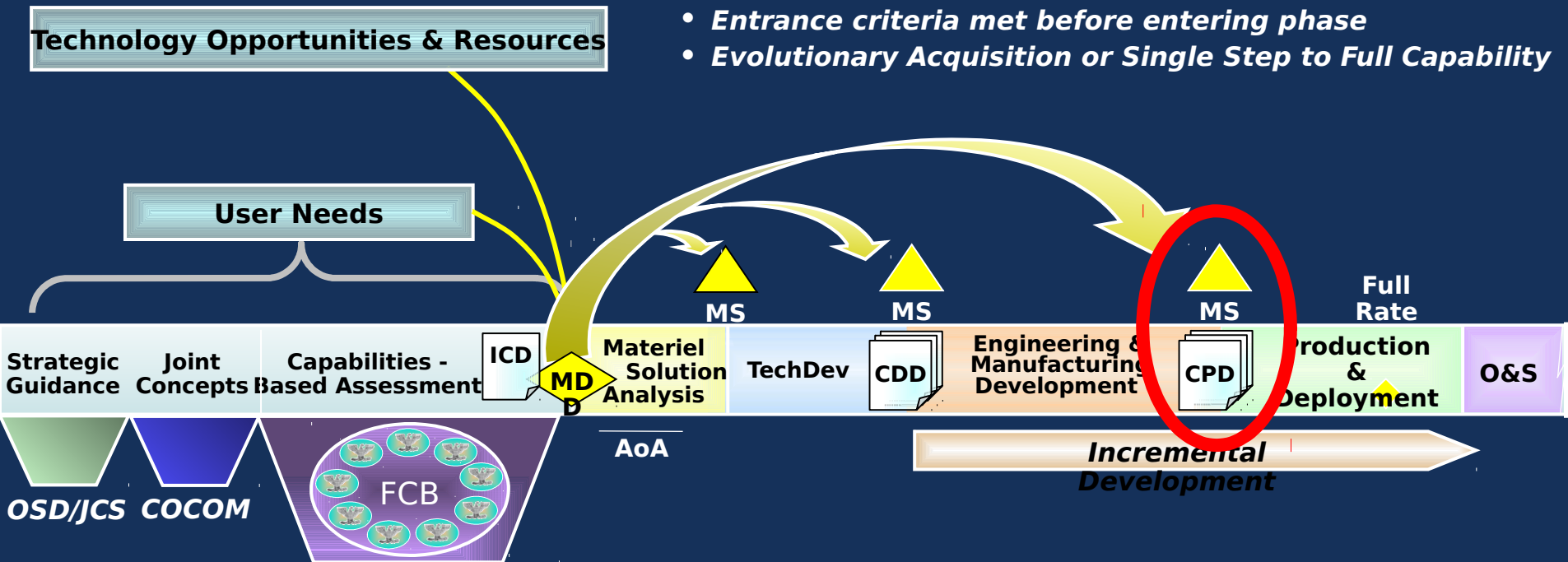
CDD	CPD
Focus on Design	Focus on Production
All Increments	A Specific Increment
KPPs to Help Evaluate Alternative Designs	KPPs Refined and Tailored to the Proposed System

✳ **The Need for Flexible Capabilities**

✳ **Begin With Analysis**

✳ **Analysis Leads to Action**

✳ **Non-Materiel Solutions**

  • **The DOTMLPF Change Recommendation (DCR)**

✳ **Materiel Solutions**

  • **Initial Capabilities Document (ICD)**

  • **Capability Development Document (CDD)**

  • **Capability Production Document (CPD)**
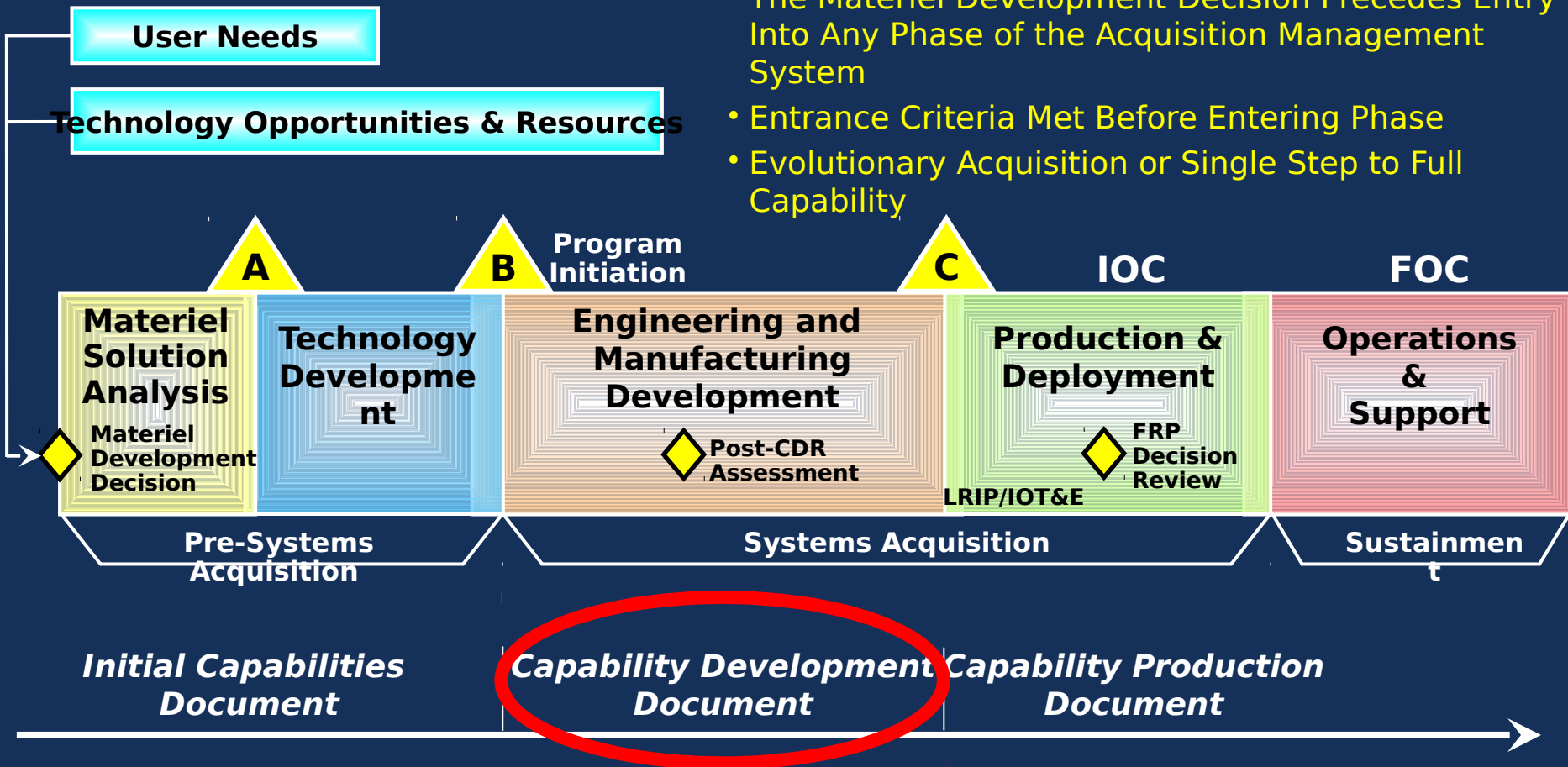
Discussion Questions

* **What Analysis is Going to Work Best to Deliver Effective Solutions to Warfighters?**

* **How Can We be Sure Non-Materiel Solutions are Going to be Effective?**

* **What Subsequent Analysis is Going to Help Deliver Effective Materiel Solutions?**

* **What Is Your Experience with Analysis and the Results of Analysis?**
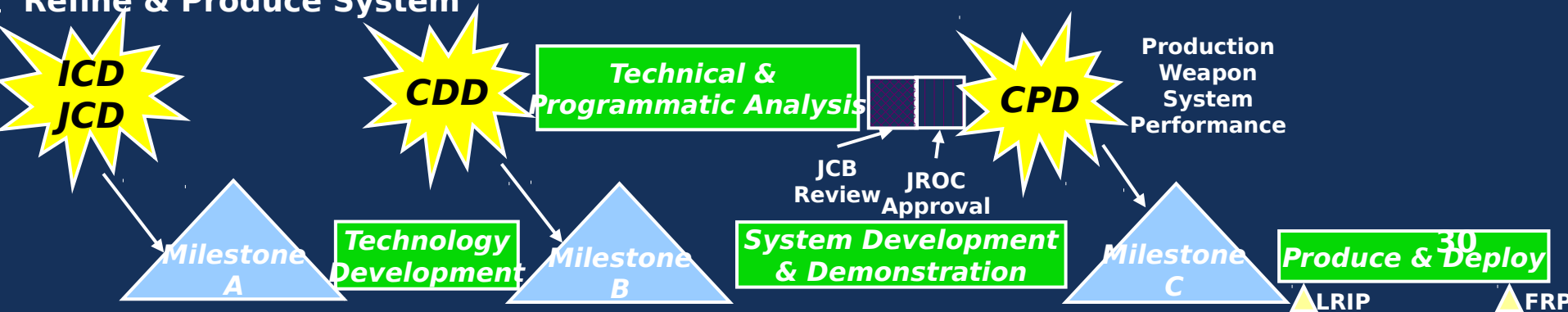
The Defense Acquisition Management System

- The Materiel Development Decision Precedes Entry Into Any Phase of the Acquisition Management System
- Entrance Criteria Met Before Entering Phase
- Evolutionary Acquisition or Single Step to Full Capability

User Needs

Technology Opportunities & Resources

A   **B**   Program Initiation   **C**   IOC   FOC

Materiel Solution Analysis	Technology Development	Engineering and Manufacturing Development	Production & Deployment	Operations & Support

Materiel Development Decision

◆ Post-CDR Assessment

FRP Decision Review

LRIP/IOT&E

Pre-Systems Acquisition   **Systems Acquisition**   **Sustainment**

Initial Capabilities Document   *Capability Development Document*   *Capability Production Document*

Relationship to JCIDS

CDR: Critical Design Review
FRP: Full Rate Production

IOC: Initial Operational Capability
FOC: Full Operational Capability

Capability Based Process and Acquisition

Capability Gap Validation

JIC → JIC → JCB Review → CBA Plan → JCB Approval → CBA → JCB Review → JROC Approve → **ICD JCD**

Technical Approach

ICD JCD → JROC Approve →
- Change DOTmLPF → **Done**
- Risk OK → **Done**
- Gap Validated → Additional Analysis → JCB Review → JROC Approval → **CDD** → KPPs, KSAs, Cost Schedule Risk, Affordability

Legend:
- OSD
- Services
- Decision Meetings
- JS/COCOMS

Refine & Produce System

ICD JCD → Milestone A → Technology Development → **CDD** → Milestone B → Technical & Programmatic Analysis → JCB Review → JROC Approval → **CPD** → Production Weapon System Performance → System Development & Demonstration → Milestone C → Produce & Deploy → LRIP → FRP

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JROC DECISION CHAIN

FINAL DECISION AUTHORITY

CJCS — **ADVICE TO SECDEF**

JROC — **RECOMMENDATION APPROVAL/ TOP LEVEL GUIDANCE**

JCB — **ISSUE DEVELOPMENT**

FCB — **INITIAL ISSUE REVIEW**

FCB WG — **ANALYTIC FOUNDATION**

JROC MEMBERSHIP

Chair: VCJCS

Council Members:

- **Vice Chief of Staff, Army**
- **Vice Chief of Naval Operations**
- **Vice Chief of Staff, Air Force**
- **Assistant Commandant of the Marine Corps**

JROC: Joint Requirements Oversight Council
JCB: Joint Capabilities Board
FCB: Functional Capabilities Board
FCB WG: Functional Capabilities Board Working Group

COCOMs have a standing invitation to attend all JROC sessions

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- **Perform an initial review of all JCIDS proposals**
  - **Support provided by J6, J8, FCB WGs**
- **The Gatekeeper will determine:**
  - **Joint Potential Designator**
    - **JROC Interest**
    - **JCB Interest**
    - **Joint Integration**
    - **Joint Information**
    - **Independent**
  - **Lead and supporting Functional Capabilities Boards**
- **Formal Staffing begins after Gatekeeper decisions**

Command & Control

Maj Gen Kennedy
JFCOM J-8

Battlespace Awareness

Brig Gen Grundhauser
JS J-2

Logistics

RDML Prendergast
JS J-4

Force Support

Ms Disbrow
JS J-8

Protection

Brig Gen Robinson
JS J-8

Force Application

Brig Gen Robinson
JS J-8

Net-Centric

Brig Gen Basla
JS J-6

Building Partnerships

Mr Norwood
JS J-5

Corp Support & Management

Maj Gen Gaskin
VDJS

FCB Membership: (O-6 level)

Services	ASD NII/ DOD CIO
Combatant Command Reps	D, PA&E
OSD (AT&L)	DIA Rep (Threat)
OSD (I)	Mission Rqmts Board Exec Sec'y
USecAF (Space)	Other DoD Agencies as necessary

JROC Interest

Staffing → FCB Review → JCB → JROC

ACAT I proposals

JCB Interest

Staffing → FCB Review → JCB

ACAT II & III proposals requiring a joint review

Joint Integration

Staffing → Certification → Sponsor

ACAT II & III proposals requiring certifications only

Joint Information

Staffing → Sponsor

ACAT II & III proposals with multi-component interest

Independent

Sponsor

ACAT II & III component unique proposals

Validation Authority

Tripwires

FCB Review → JCB → JROC

ACAT I programs with 10% cost growth

Top Cost Drivers

1. Force Structure — 26.9%
2. KPP BA SIGINT — 9.0%
3. Electronic Protection — 6.0%
4. KPP BA Optical — 4.8%
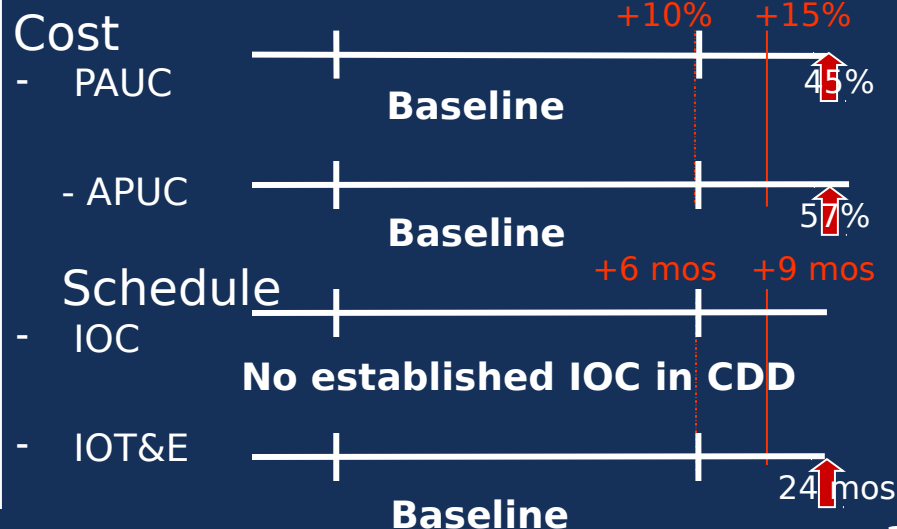5. C^3 — 1.9%

Performance (KPPs & select KSAs)

- KPP 1, Endurance
- KPP 2, World-wide
- KPP 3, Dynamic Crl
- KPP 4, Net Ready
- KPP 5, BA

N   T   O
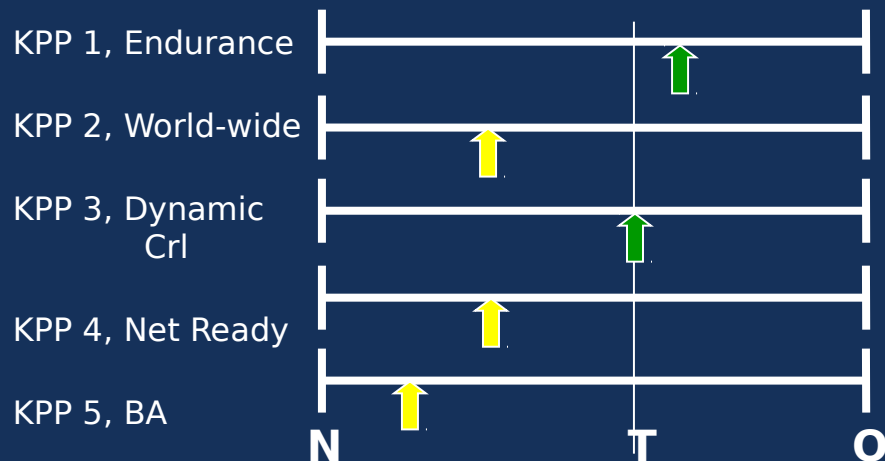
Tech Readiness Assessment

Critical Technologies	To Date	Estimate @ IOT&E
Endurance	TRL 6	TRL 8
World-wide operations	TRL 6	TRL 6
Dynamic Control	TRL 6	TRL 8
Net Ready	TRL 5	TRL 6
Battlespace Awareness EO	TRL 6	TRL 8
Battlespace Awareness IR	TRL 6	TRL 8
Battlespace Awareness Radar	TRL 6	TRL 8
Battlespace Awareness SIGINT	TRL 4	TRL 8
Battlespace Awareness MTI	TRL 6	TRL 8

Acquisition Program Baseline (APB)

Dec baseline

Cost
- PAUC   +10%   +15%
  Baseline   45%
- APUC
  Baseline   57%

Schedule   +6 mos   +9 mos
- IOC
  No established IOC in CDD
- IOT&E
  Baseline   24 mos

CONUS Basing:
- Beale — 1
- Grand Fork — 2

OCONUS Basing:
- CENTCOM — 2
- EUCOM — 2
- PACOM — 2

Exploitation:
- DCGS 10.2 — 1
- DCGS WAN — 1
- DCGS-AF — 1
- DCGS-A (TE) — 3
- TEG — 3
- JSIPS-N — 3
- CROFA — 1
- RSOC — 1

C   S   P
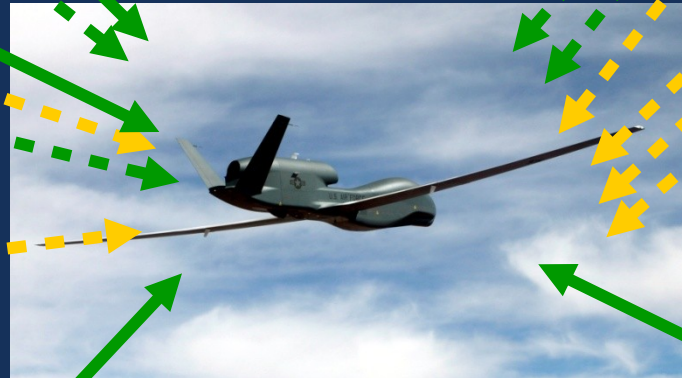
Battlespace Awareness: 2
- ASIP — 2
- RTIP — 2
- E-10
C2:
- JTRS Cluster — 2
- JTRS Wavefm — 1
- FAB-T — 1
- CDL — 1
- DISN — 3
- ETP — 1
- GIG — 3
- NIPRNet — 3
- SIPRNet — 3
- JWICS — 3
- INMARSAT — 3
- UHF SATCOM — 1
- GPS — 1

— Solid denotes current system
···· Dash denotes future system

→ Arrow to denotes support to
← Arrow from denotes supports

— known platform or system issues
— monitoring potential interoperability issues

PM DAES Rating: I   C S P   Not Rated   Fielded — 1

I = Integration.
Color denotes Synchronization of effort with this program
Number denotes degree of dependency:

Organization & Oversight
Flag-level oversight thru [describe] *Level 3 GS/CD Members*
- *XXXX*
- *XXXX*
- *XXXX*

"Boundaries"
JROC-Approved [Topic Name]

**Oversight – [Name]
Execute – [Name]**

Key Performance Parameters
- **KPP** #1 [Describe] = Initial
- **KPP**# 2 [Describe] = Initial
- Etc.. [List the KPPs that specifically apply to this capability]

Hardware Refresh and System Enhancements & Integration
- **Per year = XXX**
- **Rationale**

Application and System Software Development
- **Per year = XXX**
- **Rationale**
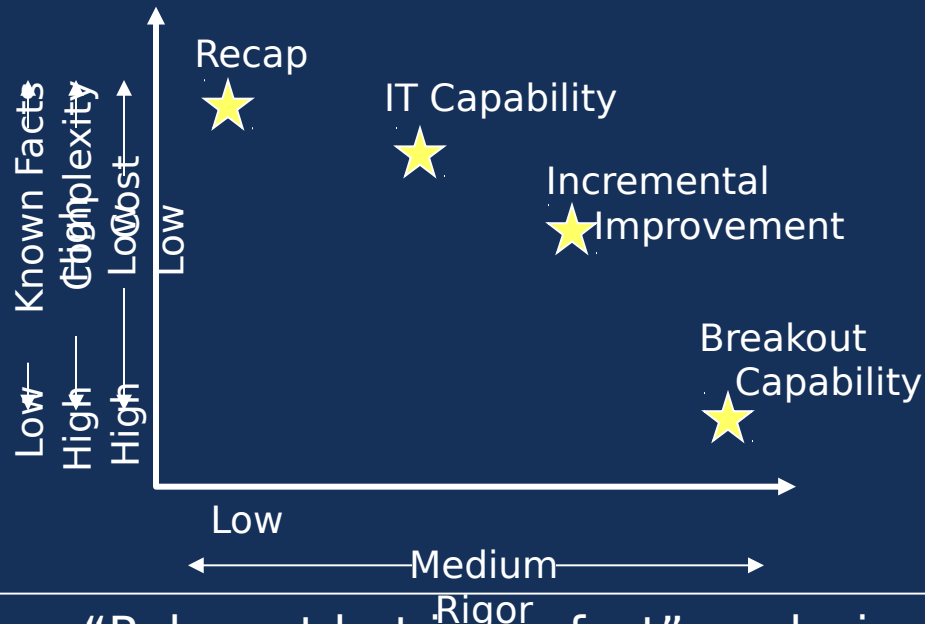
What does the CBA identify?

✦ **The mission**
  • **Concept of Operations**
  • **Assumptions**
  • **Timeframe**
✦ **Capability definition**
  • **Use SWarF identified attributes**
✦ **Gaps**
  • **Operational risk**
  • **Priorities**
✦ **Desired solution type**
  • **Breakout – 5x improvement over current, fundamental change**
  • **Incremental – modify an existing system**
  • **IT system**
  • **Non-materiel**
✦ **Recommendations**
  • **Sets the conditions for the ICD and AoA**

ICD

Objectives:
- Complete CBA within 30 Days.
- Produce enduring relevant capabilities

JROC
Gap Analysis/CBA

Known Facts
Complexity
Cost

Low
High
High

Low
Medium
High

Low
High
High

Recap
IT Capability
Incremental Improvement
Breakout Capability

Rigor

MDA
Solution Analysis/AoA

Known Facts
Complexity
Cost

Low
High
High

Low
Medium
High

Low
High
High

HMMWV
Build more Predators
Improve sensor
HULA
Space Radar

Rigor
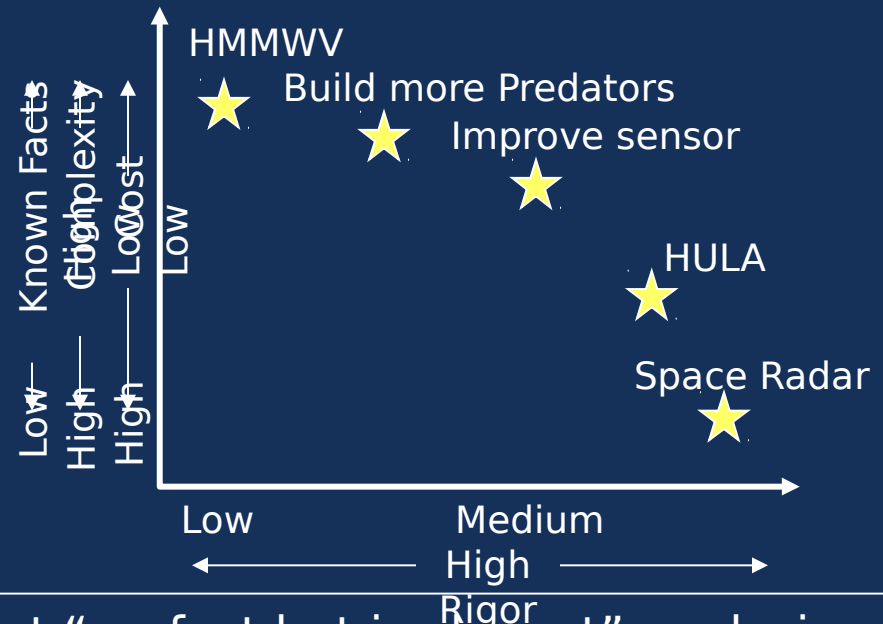
"Relevant but imperfect" analysis not "perfect but irrelevant" analysis
Component responsible for determining depth of analysis and defending results

Tab 2

MDA = Milestone Decision Authority

What is a JCIDS responsibility…

* Ensures the joint force has the capabilities to perform across the range of operations

* Is a primary interface to the DoD acquisition system

* Implements an integrated process to guide new capabilities development

* A key linkage on how the future joint force will fight

* Provides the analytic baselines to support studies to inform capability development

* Leverages expertise to identify improvements to existing capabilities and to develop new warfighting capabilities

What is NOT a JCIDS responsibility…

* Is not capabilities-based planning

* Is not DoD 5000

* The JROC is not JCIDS

* Joint Concepts are not JCIDS

* The Analytic Agenda is not JCIDS

* Is not designed to obtain or address near-term funding or urgent warfighting needs (JRAC) but some changes are

40

✶ **Deviations from the process are approved by DDRA**

✶ **Waivers have been used for:**

- **Request to develop a CDD without an ICD (ACAT II and below)**
- **Request to use an ORD for an upcoming MS C rather than submitting a new CPD**

✶ **Approval process**

- **Requests are submitted by Services/Agencies**
- **CAD/AO coordinates through**
  - **Lead FCB**
  - **JCIDS Branch**
  - **CAD Div Chief**